CLIPSAL
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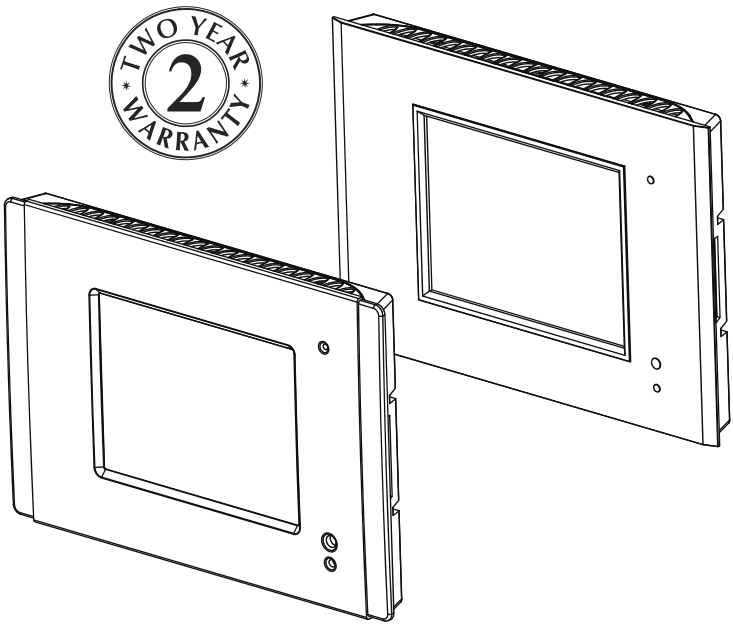
C-Touch Colour Touch Screen

Installation Instructions

50xxCTC2 Series



CLIPSAL C-Bus Control and Management System

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Contents

1.0	**Product Range**	**5**
2.0	**Important Notes**	**5**
3.0	**Description**	**6**
3.1	Packing List	6
3.2	Features	7
3.3	Infrared Remote Control	8
4.0	**Definitions**	**8**
5.0	**Installation Procedure**	**9**
5.1	Location	9
5.2	Multiple C-Touch Units	10
6.0	**Mounting Instructions**	**11**
6.1	Plasterboard Bracket	11
6.2	Nail Bracket	13
6.3	Wall Box	16
6.4	The Power Supply Unit	17
6.5	Attaching the Facia	18
7.0	**Wiring Details**	**20**
7.1	Rear Panel Connectors	20
7.2	C-Bus Network Connection	20
7.3	Programming Lead	22
7.4	Audio and IR Connections	22
7.5	Video Connection	23
7.6	RS-232 Connection	24
7.7	PS/2 Connection	24
8.0	**C-Bus System Clock**	**25**
9.0	**C-Bus Power Requirements**	**25**
10.0	**Power Surges**	**25**
11.0	**Megger Testing**	**25**
12.0	**Programming Requirements**	**26**
13.0	**Using the C-Touch Colour Transfer Utility**	**27**
13.1	The Reset Button	35
14.0	**Electrical Specifications**	**36**
15.0	**Mechanical Specifications**	**38**
16.0	**Standards Complied**	**40**
17.0	**Warranty**	**41**

1.0 Product Range

Product	Facia Style	Catalogue Number
C-Touch Colour Touch Screen	Grey and brushed aluminium Neo	5050CTC2,GB
	White Neo	5050CTC2,WE
	Black Neo	5050CTC2,BK
	White and brushed aluminium Neo	5050CTC2-28
	Stainless steel	BS5000CTC2
	Brass	BB5000CTC2
	White Saturn	5080CTC2,GF
	Black Glass Saturn	5080CTC2-6
	Cream Glass Saturn	5080CTC2-3
	Mid-Brown Saturn	5080CTC2-7
Power Supply (Non-UK, for 50xxCTC2 models only)		5000CTCPS/2
Power Supply (UK, for 50xxCTC2 models only)		5000CTCPS/2B
Infrared Remote Control		5035TX

2.0 Important Notes

- 50xxCTC2 C-Touch units must only be used with the 5000CTCPS/2 Power Supply
- Do not replace, extend or shorten the Power Supply's DC output cable. Doing so may result in damage to the C-Touch Colour Touch Screen (C-Touch Colour) or Power Supply unit, and void your warranty.
- Do not connect mains directly to C-Touch Colour units.
- Ensure you connect the pink C-Bus cable to one of the two C-Bus RJ45 connectors on the left side of the C-Touch Colour (looking from the front). Do not connect the C-Bus cable to a C-Touch Colour's Ethernet RJ45 connector, as this may damage the unit and void the warranty.
- Using any non-C-Bus software with C-Bus hardware without the written consent of Clipsal Integrated Systems may void any hardware warranties.

- Changes or modifications not expressly approved by Clipsal Integrated Systems could void the user's authority to operate the equipment (under FCC rules).
- To comply with EMC regulations the included ferrite filters must be fitted to any audio, video and IR cables connected to the C-Touch Colour unit. Refer to sections 7.3 and 7.4 on Pages 22 and 23.
- Cabling for this product should be performed by a suitably qualified person, in accordance with the laws and requirements of the state or country of installation.
- Do not over tighten the screws when securing the C-Touch Colour unit to the wall. Doing so may distort the casing, making attachment of the facia more difficult.

3.0 Description

The C-Touch Colour Touch Screen (C-Touch Colour) allows sophisticated control of an entire C-Bus system from one location.

Using appropriate software, the unit can be configured to look and operate in a manner convenient to the user. Refer to Page 26 for further details.

3.1 Packing List

The items* included with the C-Touch Colour package are shown in Figure 1. They are:

- C-Touch Colour Touch Screen (LCD covered by protective film)
- programming lead (2 metre red crossover network cable)
- RJ45 cable joiner
- 2 × ferrite filters
- cleaning cloth
- Installation Instructions (this booklet)
- User's Guide
- Stylus
- 4 × mounting screws (finish to suit touch screen style).
- 5035TX Infrared Remote Control.

*Subject to change without notice

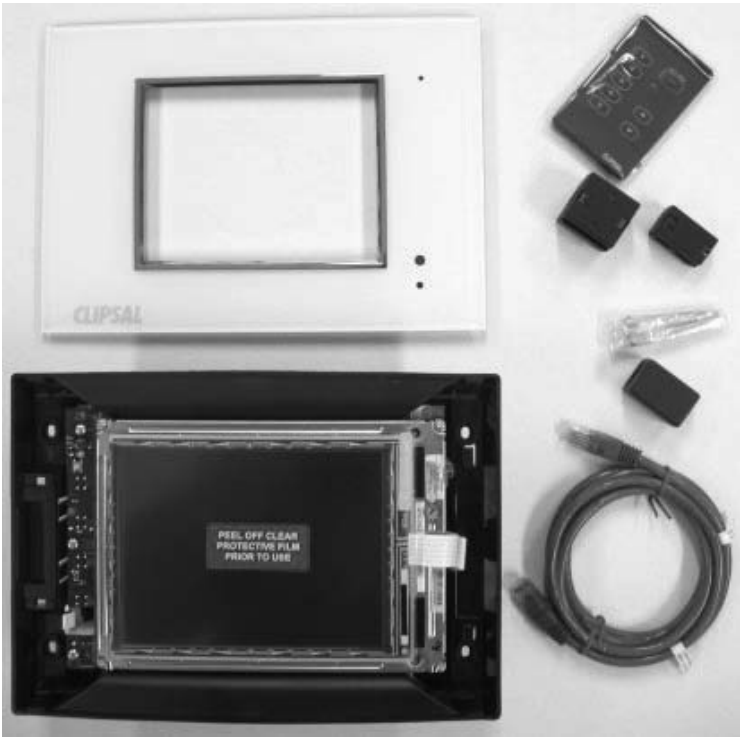


Figure 1 – Typical components packed with the5080CTC, GF C-Touch Colour

3.2 Features

The C-Touch Colour's features include:

- a touch sensitive 6.4 inch (16.3 cm) LCD screen
- real time clock for automatic scheduling of events
- 10/100 Ethernet interface
- in-built infrared (IR) receiver with an external IR input
- 2 × USB and 1 × RS-232 serial ports
- a composite video output
- 2 × C-Bus connections (in parallel)
- audio line in and line out connections
- inbuilt speaker.

3.3 Infrared Remote Control

The C-Touch Colour is supplied with an Infrared Remote Control, which can be used to trigger scenes, switch loads, and adjust lighting levels. The remote control functionality is incorporated into a software project. The available functions depend on how the C-Touch Colour is programmed. If multiple C-Touch Colour units are installed, the same remote control can talk to each of them.

Figure 2 – The Infrared Remote Control

4.0 Definitions

Term	Definition
load	An electrical device (such as a light) connected to a C-Bus output unit (such as a dimmer).
scene	A series of actions across multiple outputs, triggered by a single button. For example, on arrival home you could use a scene to switch on lights in the hallway, kitchen and lounge, and switch on a heater.
schedule	A sequence of events to occur at particular instances in the future.
backlight	The light behind the LCD screen providing visibility in varying lighting conditions.

5.0 Installation Procedure

5.1 Location

It is important to select the right location to install the C-Touch Colour. Some considerations:

- The unit has a typical viewing angle of 70° to the left, right and down, and 40° up (illustrated in Figure 3). Take this into account when choosing the mounting height.
- Provide easy access to the unit for switching lights and selecting scenes.
- Keep the C-Touch Colour clear of places subject to water, humidity, direct sunlight and heavy dust.
- Allow adequate ventilation.
- Do not cover the unit.
- Avoid obstruction to the reception of infrared signals from a remote control.
- The C-Touch Colour is designed for indoor use only.
- Do not mount opposite windows or other sources of bright light, as the reflections make viewing difficult.
- The unit must be mounted vertically in a landscape orientation (to maximise heat dissipation).

A warm airflow radiates from the vents at the top of the unit. This may cause discolouration of some surfaces over time.

no wet hands

no cleaner spray

no coverage

no direct sunshine

no dust

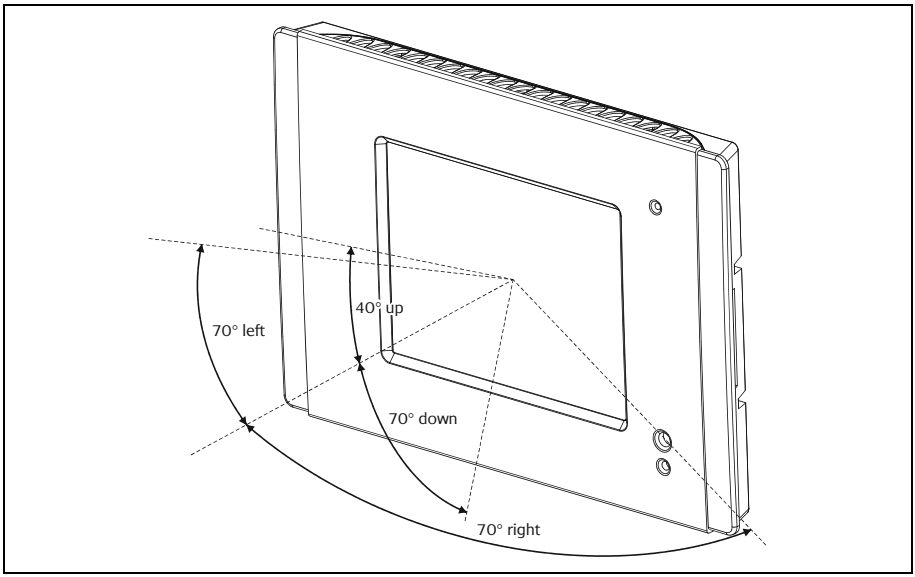


Figure 3 – Consider the C-Touch Colour's viewing angle when mounting the unit

5.2 Multiple C-Touch Units

Multiple C-Touch units can be installed on a C-Bus network. These units may be programmed to operate cooperatively or independently of each other. Take care not to mount units where a single IR remote control transmission can be received by multiple units (illustrated in Figure 4). Otherwise, multiple units may trigger a scene, with unpredictable results.

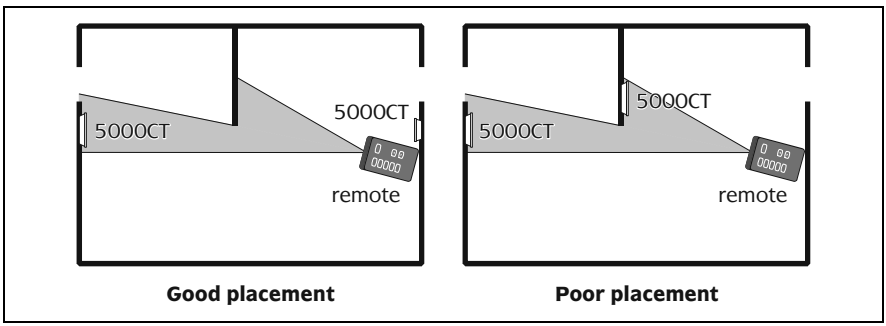


Figure 4 – Take care not to overlap IR transmission/reception zones

6.0 Mounting Instructions

There are three options for mounting the C-Touch Colour:

- in plasterboard walls using a plasterboard bracket
- in stud walls (such as timber frame internal walls) using a nail bracket
- in solid walls (such as brick or stone) or stud walls using a wall box.

6.1 Plasterboard Bracket

The 5000CTCRM C-Touch Colour Plasterboard Bracket provides a convenient means of mounting a 50xxCTC2 Series C-Touch Colour Touch Screen in a plasterboard wall.

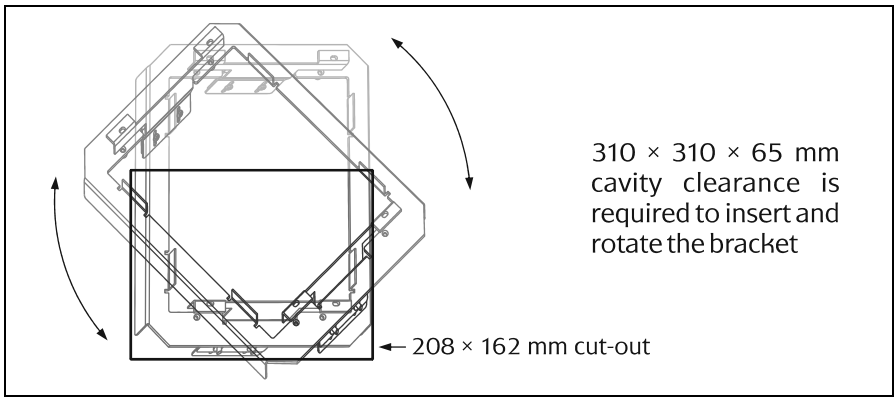


Figure 5 - Ensure sufficient clearance

NOTE When planning to use the 5000CTRM Plasterboard Bracket, ensure that sufficient clearance is available inside the wall cavity (refer to Figure 5). You will need to insert the bracket vertically, and rotate it 90 degrees.

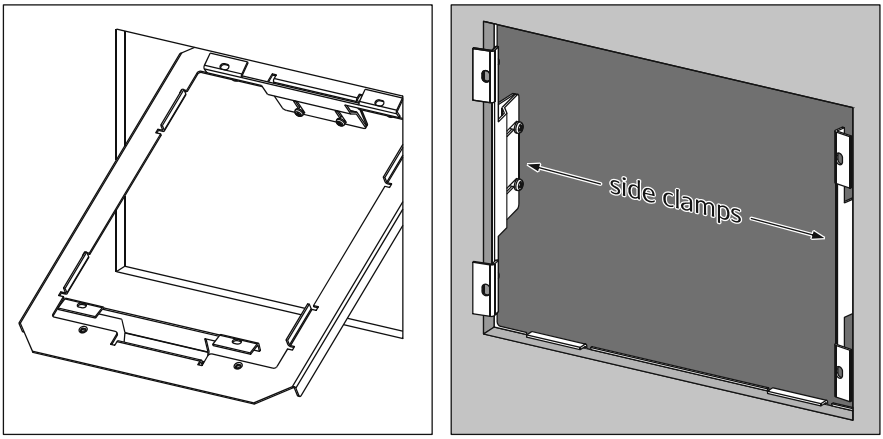


Figure 6 - Installing the plasterboard bracket

To install the plasterboard bracket:

1) Prepare a 208 × 162 mm cut-out in the plasterboard.
2) Place four 4 mm holes in the plaster board to provide clearance for the screws that secure the Colour Touch Screen.
3) Using the four short screws supplied, attach the side clamps to the bracket as illustrated.
4) Ensure the four screws securing the side clamps are loose, and the side clamps can move freely.
5) Rotate the bracket 90 degrees to the cut-out and feed it into the wall cavity.
6) Once the entire bracket is inside the cavity, rotate it 90 degrees to match the cut-out.
7) Position the bracket so the side clamps feed through the cut-out, clamping onto the edge of the plasterboard.
8) Tighten the side clamp screws.
9) Insert the Colour Touch Screen.
10) Fasten the Colour Touch Screen to the bracket using the four long screws supplied.

6.2 Nail Bracket

The C-Touch Colour Nail Bracket (catalogue number 5000CTCNA) provides a convenient means of mounting the C-Touch Colour unit. The nail bracket (illustrated in Figure 7) is used where is it practical to nail or screw the bracket into a wall frame.

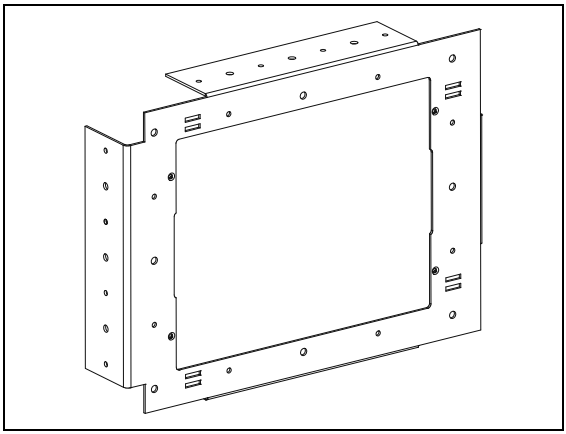


Figure 7 – A C-Touch Colour Nail Bracket

To mount the C-Touch Colour using the nail bracket:

1) Place the bracket against a beam of the wall frame.
2) Nail the bracket into the frame. Alternatively mark and drill the holes, then screw the bracket into the frame.
3) Feed the cables through to the nail bracket. The use of conduit is recommended. Refer to Figure 8. The number and positioning of cables will vary depending on the particular installation. Possible cables are listed in Table 1.
4) Hold the C-Touch Colour unit up to the nail bracket and plug the cables into the connectors.
5) Insert the unit into the nail bracket, lining the mounting holes up with those in the bracket. Fix the C-Touch Colour to the nail bracket using the four screws provided. Do not over tighten.

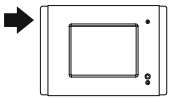
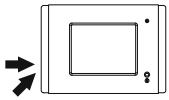
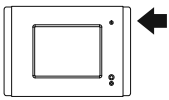
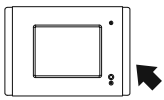
Cable	Connection	Quantity	Connector Location
C-Bus	RJ45	2	
Serial RS-232	DB9	1	
Infrared (input)	3.5 mm mono socket	1	
Audio line in	3.5 mm stereo socket	1	
Audio line out	3.5 mm stereo socket	1	
Serial USB	USB Type A	2	
Cat-5 network	RJ45	2 (1 front, 1 back)	
DC power	7 pin DIN	1	
PS/2 mouse or keyboard	6 pin mini DIN	1	
Video out	RCA	1	

Table 1 – C-Touch Colour cable connections and location

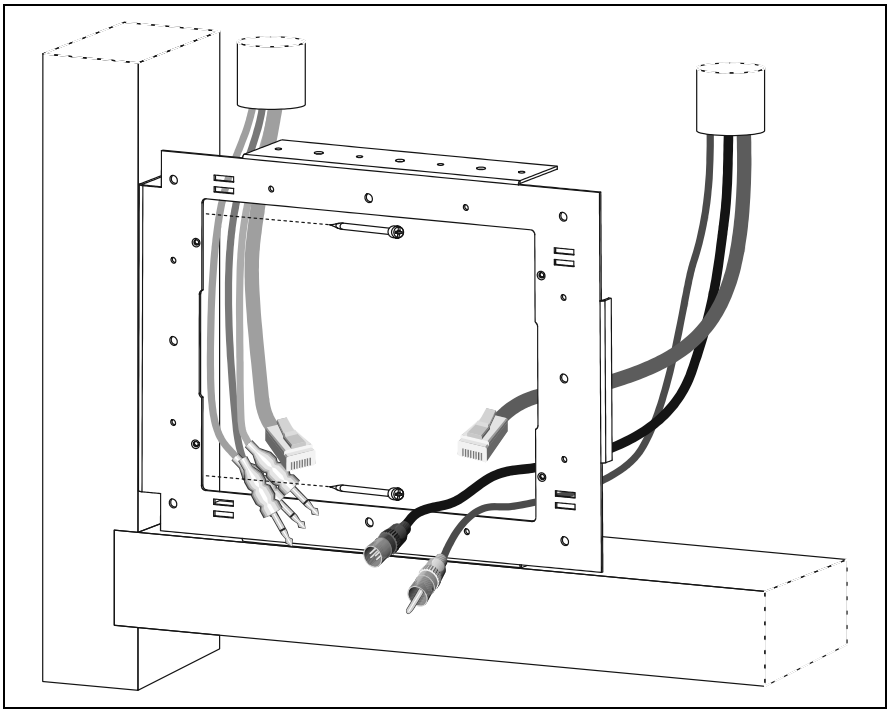


Figure 8 – Installing the C-Touch Colour Nail Bracket

6.3 Wall Box

The C-Touch Colour Wall Box (catalogue number 5000CTCWB) allows the C-Touch Colour unit to be mounted within a solid wall construction such as brick or stone. It provides increased RF shielding compared to the Nail Bracket. The wall box (illustrated in Figure 9) may also be used to mount a C-Touch Colour unit in timber or metal framed stud walls.

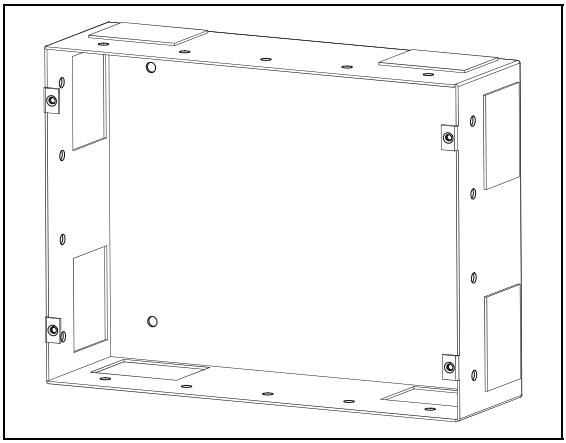


Figure 9 – A C-Touch Colour Wall Box

To mount the C-Touch Colour using the wall box:

1) Prepare a hole in the wall or place the wall box against a beam of the wall frame (in stud walls).
2) Fix the wall box into the wall or frame, in an appropriate manner.
3) Feed the cables through to the wall box. It is recommended that conduit be used. Refer to Figure 10. The number and positioning of cables will vary depending on the particular installation. Possible cables are listed in Table 1.
4) Hold the C-Touch Colour unit up to the wall box and plug the cables into the connectors.
5) Insert the unit into the wall box, lining the mounting holes up with those in the wall box. Fix the C-Touch Colour to the wall box using the four screws provided. Do not over tighten. **Ensure cables are clear of mounting screws.**

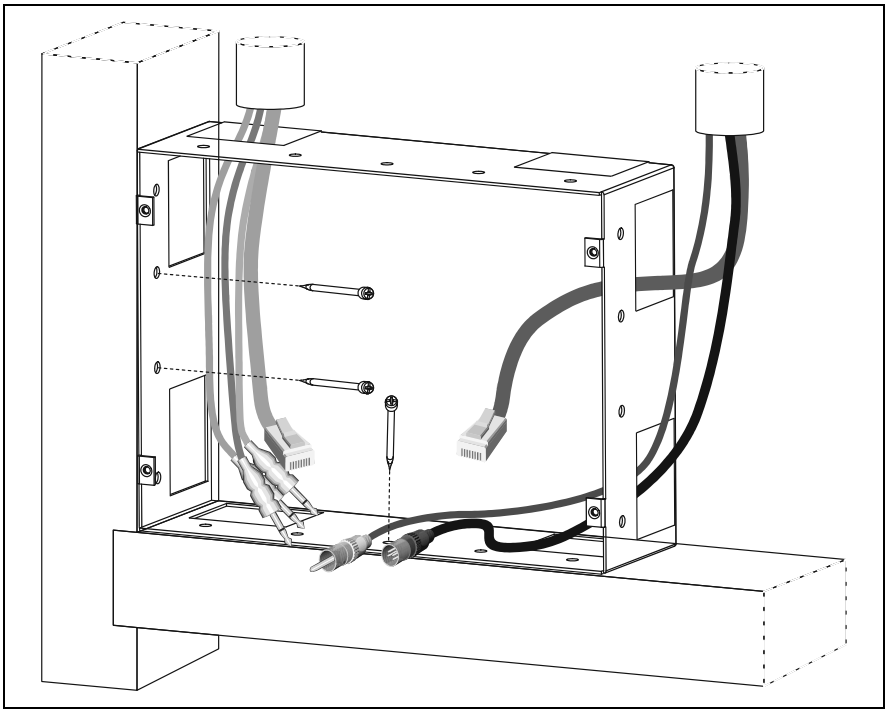


Figure 10 – Installing the C-Touch Colour Wall Box

6.4 The Power Supply Unit

It is recommended that the 5000CTCPS/2 Power Supply be mounted above the C-Touch Colour unit in the ceiling space. Note the following important points:

- Allow adequate ventilation. Do not cover the Power Supply unit or sandwich it between cavities or insulation.
- Feed the DC output cable to the C-Touch Colour unit through conduit.
- A mains power outlet is required for the Power Supply unit to plug into.
- Do not replace or extend the Power Supply's DC output cable. Doing so may result in damage to the C-Touch Colour or Power Supply unit, and void the warranty.

6.5 Attaching the Facia

The following steps are illustrated in Figure 11. To attach the facia:

1) Position the facia over the touch screen, with the IR and indicator windows on the right hand side. Ensure that the clips on the left underside of the facia are positioned just left of the matching clips on the C-Touch Colour unit.
2) While applying forward pressure on the left side of the facia (toward the touch screen), push the left side to the right. You should feel the clips slotting into each other.
3) Push the right side of the facia forward and to the right until the clip on the right underside snaps into place.

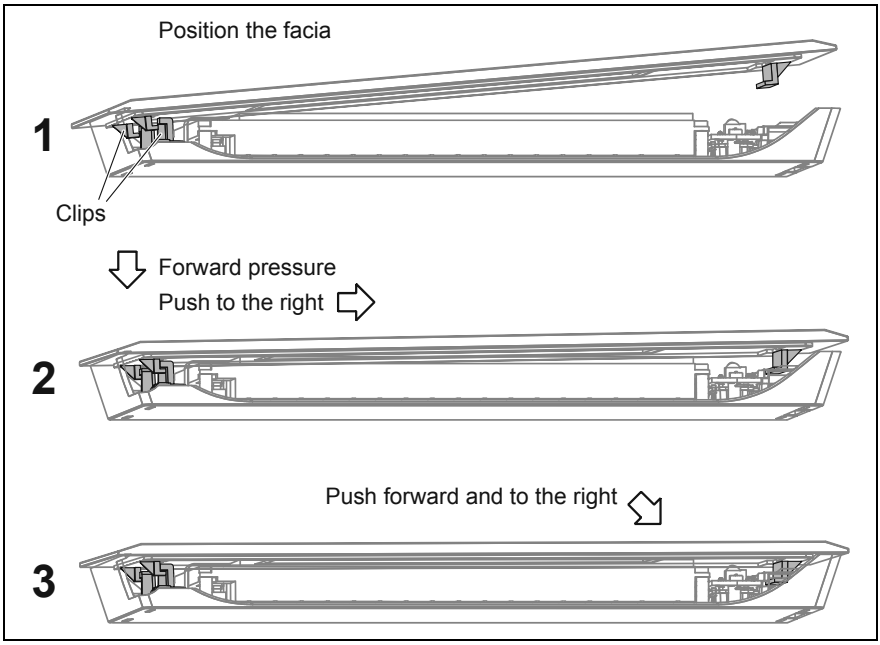


Figure 11 – Ataching the facia

To remove the facia:

1) Grasp the right side of the facia with your left hand.
2) Push the release lock in with your right thumb. At the same time lift the right side of the facia plate off and to the right with your left hand (to disengage the clip).
3) Swing the facia off towards the left. Refer to Figure 12.

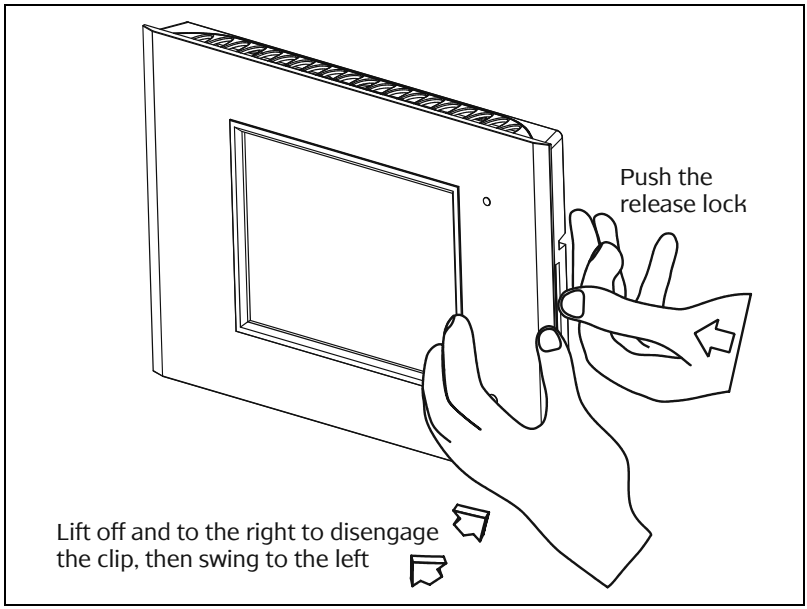


Figure 12 – Removing the facia

7.0 Wiring Details

7.1 Rear Panel Connectors

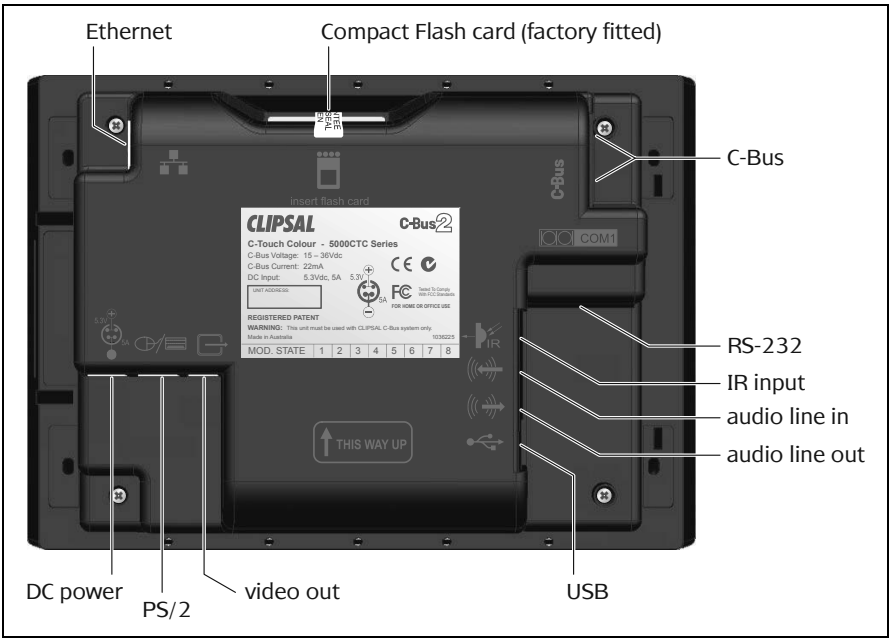
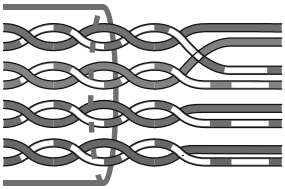


Figure 13 – Rear panel connector identification

7.2 C-Bus Network Connection

Connection to the C-Bus network is made via one of the RJ45 sockets. Use Cat-5 Unshielded Twisted Pair (UTP) C-Bus cable, and an appropriately wired RJ45 plug. Pinouts and cable conductor assignments are provided in Figure 14 and Table 2. The C-Bus RJ45 sockets are internally connected together. The Clipsal catalogue number for the C-Bus Cat-5 UTP cable is 5005C305B.



C-Bus Positive: blue + orange
C-Bus Negative: blue & white + orange & white
Remote OFF: brown + brown & white
Remote ON: green + green & white

Figure 14 – C-Bus cable conductor assignments

Pin	C-Bus Connection	Colour
1	Remote ON	green & white
2	Remote ON	green
3	C-Bus Negative (-)	orange & white
4	C-Bus Positive (+)	blue
5	C-Bus Negative (-)	blue & white
6	C-Bus Positive (+)	orange
7	Remote OFF	brown & white
8	Remote OFF	brown

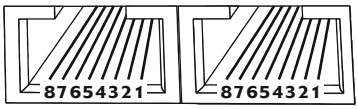


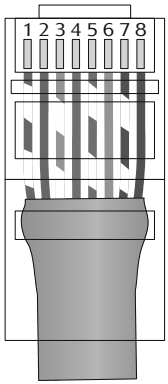
Table 2 – RJ45 sockets and C-Bus pinouts

CAUTION

Ensure you connect the pink C-Bus cable to one of the two C-Bus RJ45 connectors on the left side of the C-Touch Colour (looking from the front). Do not connect the C-Bus cable to either of the C-Touch Colour's Ethernet RJ45 connectors!

7.3 Programming Lead

A programming lead is provided with the C-Touch Colour unit. It consists of a Cat-5 crossover Ethernet patch cable. Use the crossover programming lead when connecting directly from a PC (e.g. laptop) to the C-Touch Colour. If connecting through a network hub or switch, you will need to use a standard Ethernet cable. Cable conductor assignments for a crossover Ethernet cable are shown in Table 3.



Connection A	Connection B	Colour
1	3	Green/White
2	6	Green
3	1	Orange/White
4	4	Blue
5	5	Blue/White
6	2	Orange
7	7	Brown/White
8	8	Brown

Table 3 – Wiring assignments for a crossover Ethernet patch cable

7.4 Audio and IR Connections

Audio line in and line out connections (3.5 mm stereo sockets) are provided on the bottom left side of the C-Touch Colour (looking from the front). An infrared input (3.5 mm mono socket) is also provided in this location.

If any of these connections are utilised, it is important that the cables are looped through the large ferrite filter provided. This applies an additional level of filtering in order to comply with EMC regulations. Refer to Figure 15.

Figure 15 – Audio and IR cables must be looped through the large ferrite filter

7.5 Video Connection

An RCA video out connection is provided on the bottom right side of the C-Touch Colour (looking from the front). This allows the unit's display to be viewed on a TV or monitor which has a composite video input.

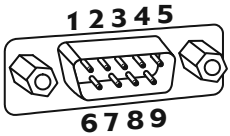
If the video out connection is utilised, it is important that the smaller ferrite filter (provided) is fitted over the video cable. This applies an additional level of filtering in order to comply with EMC regulations. Refer to Figure 16.

Figure 16 – The smaller ferrite filter is fitted over the video cable

7.6 RS-232 Connection

The RS-232 serial port connection uses standard EIA 574 pinouts (provided in Table 4). The RS-232 port allows you to connect external devices to the C-Touch Colour, such as security and control equipment.

NOTE If using the RS-232 port to connect to external devices, ensure you use a suitable shielded data cable. Cable length should be limited to 15 metres for communication at up to 19,200 bps, or 7.5 metres at 38,400 bps.



Pin	Name	Description
1	DCD	Data Carrier Detect
2	RD	Receive Data
3	TD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicator

Table 4 – RS-232 pinouts

7.7 PS/2 Connection

The PS/2 port allows you to connect a PS/2 keyboard and mouse. It is provided for configuration and support purposes, and is not intended to be permanently connected in an installation.

NOTE In order to function, a PS/2 mouse must be connected to the PS/2 port via a PS/2 "Y" adapter. A keyboard may be connected directly to the PS/2 port, or via a "Y" adapter.

8.0 C-Bus System Clock

The C-Touch Colour incorporates a software selectable C-Bus System Clock used for synchronising data communication on a C-Bus network. Since a maximum of three enabled System Clock units should exist on a network, the System Clock on the C-Touch Colour is disabled by default.

9.0 C-Bus Power Requirements

The C-Touch Colour draws 20 mA from the C-Bus network. Adequate C-Bus power supply units must be installed to support connected devices. If in doubt, refer to the C-Bus Training Manual. The Network window of a C-Bus Toolkit project provides a summary of a C-Bus network according to the units added to the Database. This can be helpful in determining the power supply requirements of a particular network.

10.0 Power Surges

The mains voltage to the Power Supply must be limited to the range specified. The Power Supply unit incorporates transient protection circuitry, however external power surge protection devices should be used to enhance system immunity to power surges. It is strongly recommended that over voltage equipment such as the Clipsal 970 is installed at the switchboard.

11.0 Megger Testing

Important points when megger testing an electrical installation:

- Only megger test when mains cabling is disconnected from C-Bus output units.
- Do not megger test the C-Bus cable.

12.0 Programming Requirements

Unit Address

The C-Touch Colour must be programmed with a unique identification address (Unit Address). This is accomplished using the C-Bus Toolkit software, available from the Downloads section of the Clipsal Integrated Systems (CIS) web site (http://www.clipsal.com/cis). C-Bus Toolkit is also used to enable the C-Bus System Clock and burden if required.

C-Touch Colour Project

The C-Touch Colour must be configured with a software project which has been customised for a particular C-Bus installation. Such a project is produced using the Programming Interface for C-Bus Embedded Devices (PICED) software. The PICED software is available from the downloads section of the CIS web site (http://www.clipsal.com/cis). Documentation and help files are included with the software.

Once you have produced a project using the PICED software, use the "Export to Archive" option to create a project archive. This option is located in the Archive section of the PICED software File menu.

The C-Touch Colour Transfer Utility software is used to transfer an archived project to the C-Touch Colour, via Ethernet. It is included with the PICED software, and allows you to perform various configuration functions such as setting the time.

Section 13.0 which follows explains how to use the Transfer Utility software to configure the C-Touch Colour with a customised project.

Both the C-Touch Colour and C-Bus Toolkit project files should be saved to disk and kept in an archive at your premises. It is also recommended to give a copy to the customer.

13.0 Using the C-Touch Colour Transfer Utility

The C-Touch Colour Transfer Utility is used to transfer a software project to the C-Touch Colour. It is included with the PICED software, which is available from the Downloads section of the CIS web site (http://www.clipsal.com/cis).

This section takes you through the process of installing a project onto the C-Touch Colour, using a direct Ethernet connection. It is also possible to install projects to multiple C-Touch Colour units via a common DHCP network, or a network where each C-Touch Colour has been configured with an appropriate static IP Address.

1) Once the C-Touch Colour has been installed and switched on, you should see the default screen in Figure 17. You must configure the unit with an IP address and customised project file, before it is ready for use.

Figure 17 – The initial screen of an unconfigured C-Touch Colour Touch Screen

2) Remove the facia if it has been fitted to the unit (refer to Page 19).

3) Plug the supplied programming lead (red crossover cable) into the RJ45 Ethernet socket on the front right side of the unit.

4) Ensure your PC is switched on, and plug the other end of the crossover cable into the Ethernet socket on your PC.

5) Wait approximately 3 minutes to enable the network connection to establish (DHCP). You can skip this step if your PC has a static IP address.

6) Start the C-Touch Colour Transfer Utility software. (Click the "C-Touch Colour Transfer Utility" icon in the PICED folder in the Windows Start Menu. The PICED folder is normally located within a folder named Clipsal. Alternatively select "Connect to Unit" in the Transfer menu of the PICED software.

7) If your PC has multiple network adapters (which are enabled), you will be presented with a list of your PC's network devices (Figure 18). Select the network adapter to which you have connected the patch cable and click Next.

Figure 18 – Select the network card used to connect to the C-Touch Colour

8) The software will search for C-Touch Colour Touch Screens. If your PC uses a static IP address, it is likely that none will be found (in the case of freshly installed units). If the C-Touch Colour unit has been found, go to step 13.

9) You will be asked to select the type of network (Figure 19). Select Standalone, then click Next.

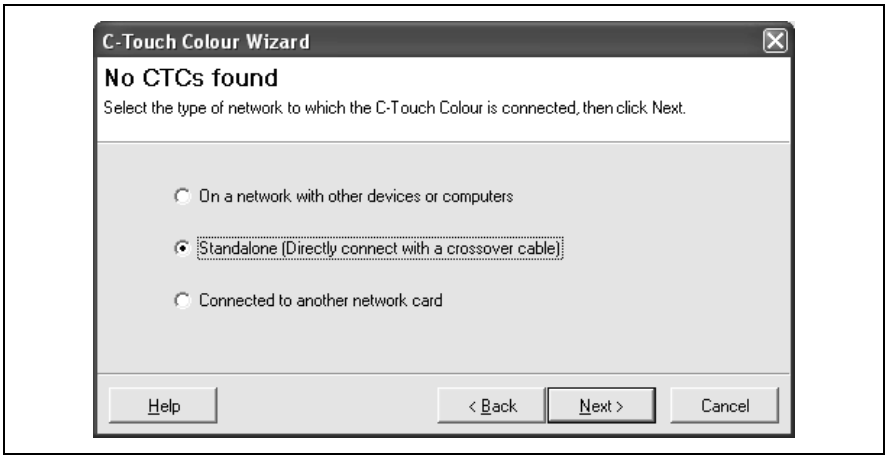

C-Touch Colour Wizard
No CTCs found
Select the type of network to which the C-Touch Colour is connected, then click Next.
On a network with other devices or computers
Standalone (Directly connect with a crossover cable)
Connected to another network card
Help
< Back
Next >
Cancel

Figure 19 – Select the network connection type

10) The Transfer Utility software will suggest an IP Address to be programmed into the C-Touch Colour unit (Figure 20). This address is chosen to be compatible with the PC you are using. It is sent to the C-Touch Colour which will ask you to confirm the new IP Address (Figure 21). Press Yes on the C-Touch Colour unit.

C-Touch Colour Wizard
Suggested IP Address
The IP Address below has been broadcast to the C-Touch Colour. Press OK on the C-Touch Colour to set this address before continuing. See Help for more information.
Suggested IP address:
192.168.0.2
Help
< Back
Next >
Cancel

Figure 20 – An IP Address will be suggested for the C-Touch Colour

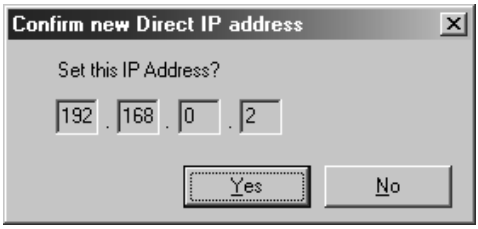


Figure 21 – Press Yes on the C-Touch Colour to confirm the IP Address

11) The C-Touch Colour will advise you that the Address Type has been set (Figure 22). Press OK on the C-Touch Colour to clear this message.

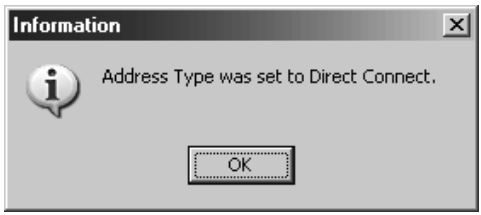


Figure 22 – The Address Type has been set

12) Click Next on your PC. The Transfer Utility software will again search for the C-Touch Colour unit.

13) You will be presented with a list containing the found unit (Figure 23). Ensure the unit is selected (click on its name to highlight it), then click Finish.

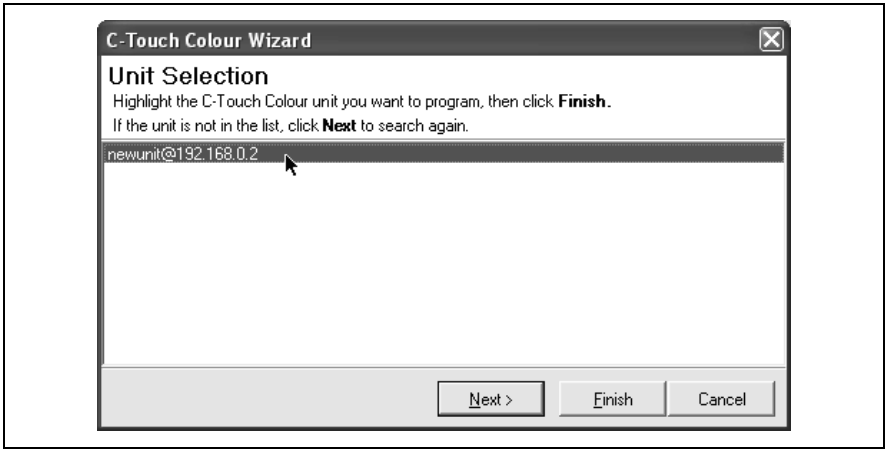

C-Touch Colour Wizard
Unit Selection
Highlight the C-Touch Colour unit you want to program, then click Finish.
If the unit is not in the list, click Next to search again.
newunit@192.168.0.2
Next >
Finish
Cancel

Figure 23 – Select the unit you want to program, then click Finish

14) The Transfer Utility software will display the Information page for the connected C-Touch Colour unit (Figure 24). Two other pages, Control and Transfer, can be selected by clicking the appropriate tab.

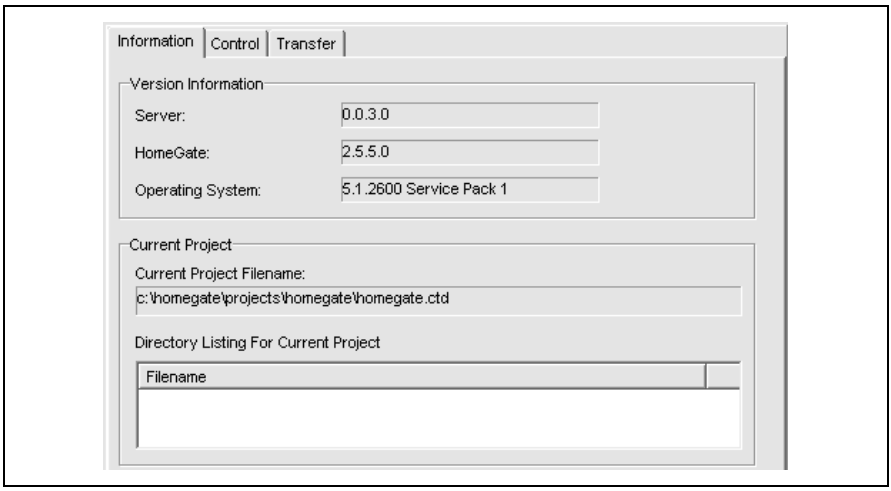


Figure 24 – The Information page in the Transfer Utility software

15) Click the Transfer tab to select the Transfer page shown in Figure 25. From here you can transfer a project to the C-Touch Colour unit. You can also transfer a project or log file from the C-Touch Colour to your PC, or update the unit with new system software (if provided).

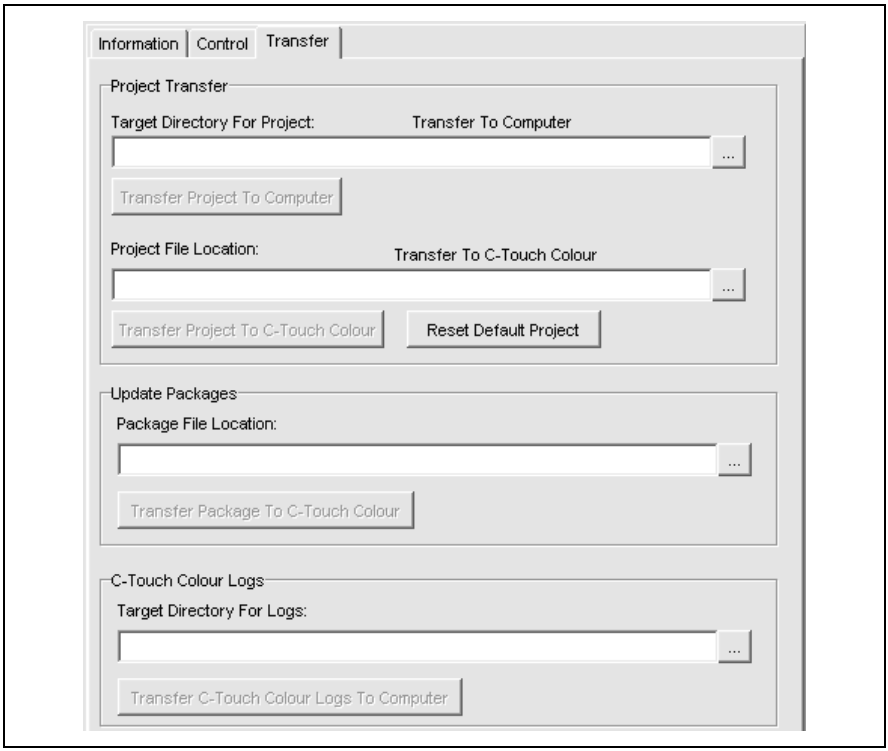


Figure 25 – The Transfer page in the Transfer Utility software

16) Select the '...' button adjacent to the Project File Location field (Figure 26), and choose the project archive to be transferred.

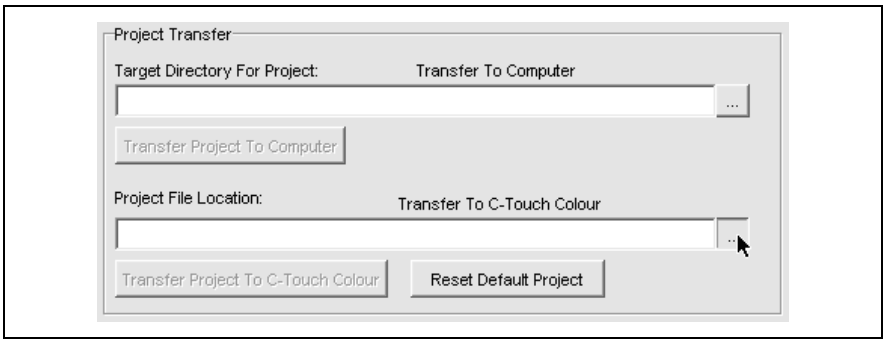


Figure 26 – Choose a project to be transferred to the C-Touch Colour

17) Click the "Transfer Project To C-Touch Colour" button (Figure 27).

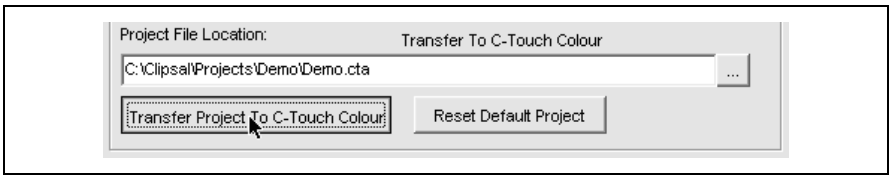


Figure 27 – Transfer the project to the C-Touch Colour

18) Depending on its size, the project may take from one to many seconds to transfer. Once the project has been successfully transferred, you will be advised that the project has been uploaded (Figure 28).

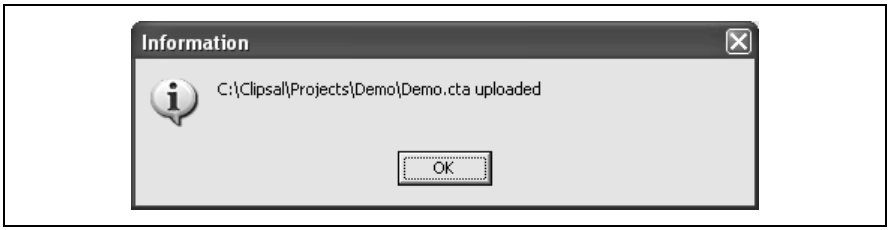


Figure 28 – The project has been successfully transferred to the C-Touch Colour

19) Click the Control tab to select the Control page shown in Figure 29. From here you can stop and start the C-Touch Colour's project (in HomeGate), enable logging, set the time and change the name that identifies the C-Touch Colour over an Ethernet connection.

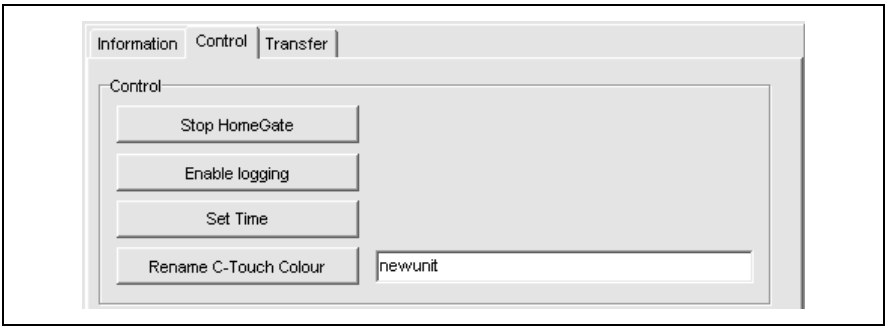


Figure 29 – The Control page in the Transfer Utility software

20) Ensure that the time on your PC is set correctly. If not, change the time. This can be accomplished by double clicking the clock on the bottom right of the screen (if present).

21) Click the "Set Time" button in the Transfer Utility software. This will set the time on the C-Touch Colour to the same time as your PC. No feedback is given to indicate the time on the C-Touch Colour has been set.

22) Type a name in the field that will identify the C-Touch Colour when controlled via Ethernet. Click the "Rename C-Touch Colour" button. Click Yes when asked to confirm the change (Figure 30). Renaming the unit is especially useful if multiple C-Touch Colour units are to be connected to a common Ethernet network.

Figure 30 – Confirming a name change

NOTE Using the C-Touch Colour on a network follows the same principles. You may need assistance from the network administrator.

13.1 The Reset Button

In the event that the C-Touch Colour software becomes unresponsive, you can restart the unit by pressing the reset button.

The reset button is located to the right of the display, beneath the facia (as shown in Figure 31). Instructions on removing the facia are provided on Page 19 (Section 6.4).

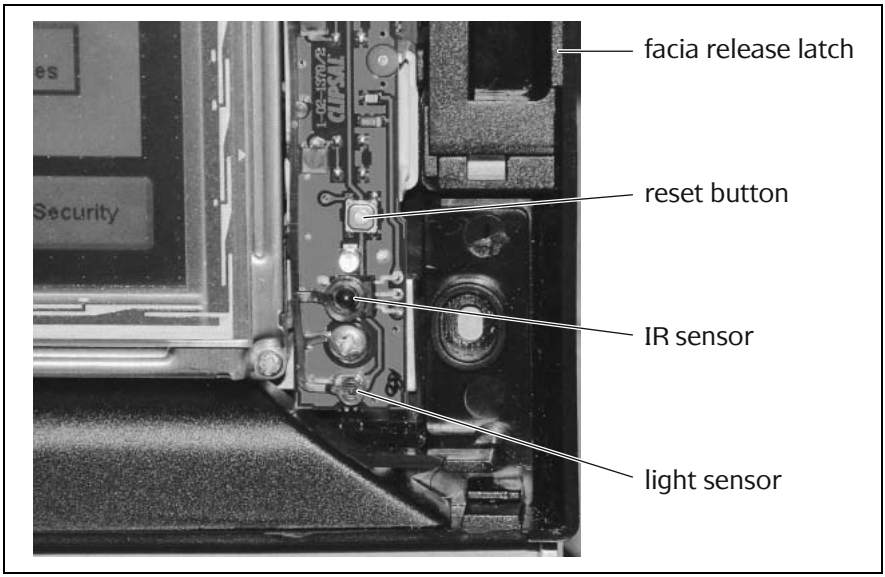


Figure 31 – The reset button is located underneath the facia

14.0 Electrical Specifications

C-Touch Colour Touch Screen

Parameter	Description
Supply voltage	5 V DC, 30 W maximum via power pack*
Display type	6.4 inch (16.3 cm) TFT Colour Active Matrix LCD
Display resolution	640 × 480 pixels
Display luminance	300 cd/m²
Display contrast ratio	better than 100:1
Viewing angle	left, right, down: 70°; up: 40°
Backlight lifetime (typical)	50,000 hours, factory exchangeable
Touch surface durability	35 million touches in any one location, 1 million touch slides
C-Bus supply voltage	15 to 36 V DC @ 20 mA required for normal operation. Does not provide current to the C-Bus network
C-Bus control functions	Load switching and dimming, scene control, scheduling
C-Bus connection	2 × C-Bus RJ45 (parallel)
C-Bus System Clock	Software selectable
Video connection	1 × Composite Video Out (75 Ω RCA) PAL or NTSC selectable
Other connections	2 × USB type A, 2 × Ethernet RJ45 (one on front, one on rear), RS-232 DB9, Audio Line In (3.5 mm stereo), Audio Line Out (3.5 mm stereo), Infrared In (3.5 mm mono), PS2 keyboard, 7 pin Power
Processor	VIA Eden Chipset, 300 MHz
Warm up time	2 minutes
Operating temperature range	10 to 30 °C (50 to 86 °F)
Operating humidity range	10 to 90% RH (non-condensing)

Infrared Remote Control

Parameter	Description
Supply voltage	3 V DC required for normal operation. Transmission range reduces with decreasing battery voltage
Battery	Lithium “coin” battery CR2025 (or equivalent)
Battery shelf life	Approximately ten years
Infrared transmission range	Approximately 8 metres at 90° or 4 metres at 60° to C-Touch Colour
Control functions	8 membrane buttons comprising 5 general purpose buttons, 1 master off button, up/down buttons

Power Supply*

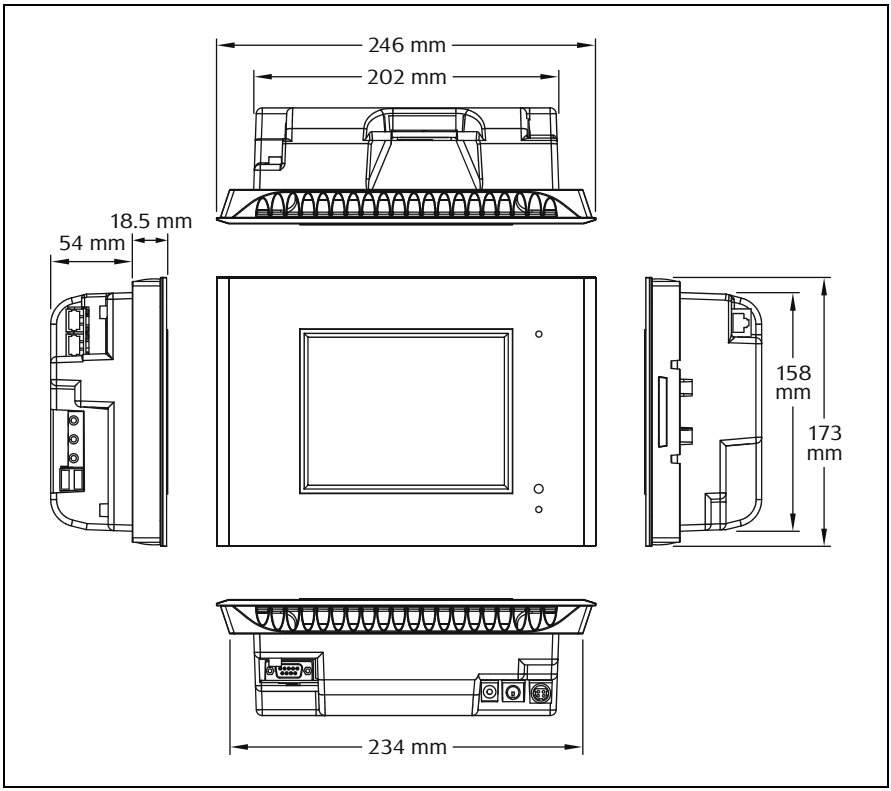
Parameter	Description
Supply voltage	90 to 264 V AC, 50/60 Hz
Supply cables	4 m mains input (C8 plug), 20 m DC output (variable)
Operating temperature range	0 to 60 °C (32 to 140 °F)

* The provided C-Touch Colour Power Supply must be used. Failure to do so will void the warranty

15.0 Mechanical Specifications

C-Touch Colour Touch Screen

Parameter	Description
Dimensions (W×H×D)	246 x 173 x 72.5 mm (excluding facia)
Protrusion from wall	23.5 mm (including glass facia)
Mounting depth (into wall)	54 mm
Mounting centres (H×V)	212.5 × 112 mm
Weight	1375 g (excluding facia)



Infrared Remote Control

Parameter	Description
Dimensions (W×H×D)	86 × 54 × 8 mm
Weight	28 g
Colour	black

Plasterboard Bracket

Parameter	Description
External dimensions (W×H×D)	261 × 200 × 44 mm
Cut-out dimensions (W×H)	208 × 162 mm
Required cavity clearance	310 × 310 × 65 mm
Weight	296g

Nail Bracket

Parameter	Description
External dimensions (W×H×D)	287 × 215 × 47 mm
Cut-out dimensions (W×H)	205 × 162 mm
Weight	530 g

Wall Box

Parameter	Description
External dimensions (W×H×D)	224 × 167 × 68 mm
Internal dimensions (W×H×D)	219 × 162 × 66.8 mm
Weight	667 g

16.0 Standards Complied

DECLARATIONS OF CONFORMITY

Australian/New Zealand EMC & Electrical Safety Frameworks and Standards
The C-Touch Colour Touch Screen complies with the following:

Regulations	Standard	Title
EMC (C-Tick)	AS/NZS CISPR 22 (Class A)	IT Equipment Emissions Standard
	AS/NZS CISPR 24	IT Equipment Immunity Standard
Safety	AS/NZS 60950.1	IT Equipment Safety Standard

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

European Directives and Standards
The C-Touch Colour Touch Screen complies with the following:

European Council Directive	Standard	Title
EMC Directive 89/336/EEC	EN 55022	IT Equipment Emissions Standard
	EN 55024	IT Equipment Immunity Standard
Safety	EN60950-1	IT Equipment Safety Standard

US FCC Regulations
The C-Touch Colour Touch Screen complies with the following:

Regulation	Title
Tested to FCC Standards	FCC Part 15

Class A Product

NOTE:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

17.0 Warranty

The C-Touch Colour Touch Screen carries a two year warranty against manufacturing defects.

Warranty Statement

1) The benefits conferred herein are in addition to, and in no way shall be deemed to derogate; either expressly or by implication, any or all other rights and remedies in respect to Clipsal Integrated Systems Product, which the consumer has under the Commonwealth Trade Practices Act or any other similar State or Territory Laws.
2) The warrantor is Clipsal Australia Pty Ltd of 12 Park Terrace, Bowden, South Australia, 5007. Telephone (08) 8345 9500. With registered offices in all Australian States.
3) This Clipsal Integrated Systems Product is guaranteed against faulty workmanship and materials for a period of two (2) years from the date of installation.
4) Clipsal Australia Pty Ltd reserves the right, at its discretion, to either repair free of parts and labour charges, replace or offer refund in respect to any article found to be faulty due to materials, parts or workmanship.
5) This warranty is expressly subject to the Clipsal Integrated Systems Product being installed, wired, tested, operated and used in accordance with the manufacturer's instructions.
6) All costs of a claim shall be met by Clipsal Australia Pty Ltd, however should the product that is the subject of the claim be found to be in good working order, all such costs shall be met by the claimant.
7) When making a claim, the consumer shall forward the Clipsal Integrated Systems Product to the nearest office of Clipsal Australia Pty Ltd with adequate particulars of the defect within 28 days of the fault occurring. The product should be returned securely packed, complete with details of the date and place of purchase, description of load, and circumstances of malfunction.

For all warranty enquiries, contact your local Clipsal sales representative. The address and contact number of your nearest Clipsal Australia office can be found at http://www.clipsal.com/locations or by telephoning Technical Support (refer to the back page).

Technical Support and Troubleshooting

For further assistance in using this product, consult your nearest Clipsal Integrated Systems (CIS) Sales Representative or Technical Support Officer.

Technical Support Contact Numbers	
Australia	1300 722 247 (CIS Technical Support Hotline)
New Zealand	0800 888 219 (CIS Technical Support Hotline)
Northern Asia	852 2484 4157 (Clipsal Hong Kong)
South Africa	(011) 314 5200 (C-Bus Technical Support)
Southern Asia	603 7665 3555 Ext. 236 or 242 (CIS Malaysia)
United Kingdom	0870 608 8 608 (Schneider Electric Support)

Technical Support email: techsupport.cis@clipsal.com.au
Sales support email: sales.cis@clipsal.com.au

Worldwide contacts are provided at http://www.clipsal.com/locations/
Information and resources are provided at http://www.clipsal.com/cis/

Product of Clipsal Integrated Systems
A Division of Clipsal Australia Pty Ltd
ABN 27 007 873 529

Head Office
12 Park Terrace, Bowden, SA 5007, Australia
Telephone: (+61) 8 8345 9500
Facsimile: (+61) 8 8346 0845
Email: cis@clipsal.com.au
Web: http://www.clipsal.com/cis/

clipsal.com/cis

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Clipsal Australia Pty Ltd reserves the right to change specifications, modify designs and discontinue items without incurring obligation and whilst every effort is made to ensure that descriptions, specifications and other information in this manual are correct, no warranty is given in respect thereof and the company shall not be liable for any error therein.

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